Agenda – Council – March 20, 2013

Report – Alternate Service Delivery Committee – February 25, 2013

Item No. 1 Cloud Computing

COMMITTEE RECOMMENDATION:

On March 6, 2013, the Executive Policy Committee concurred in the recommendation of the Alternate Service Delivery Committee, and submits the following to Council:

1. That the following applications be implemented on the Cloud within the next 12 months:

    A. City Clerk's Video Streaming;
    B. Open Data Portal;
    C. External SharePoint.

2. That the existing Information Technology business case process continue to be utilized to ensure cloud-based computing is adopted whenever appropriate.

3. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

Agenda – Council – March 20, 2013

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DECISION MAKING HISTORY:

EXECUTIVE POLICY COMMITTEE RECOMMENDATION:

On March 6, 2013, the Executive Policy Committee concurred in the recommendation of the Alternate Service Delivery Committee, and submitted the matter to Council.

COMMITTEE RECOMMENDATION:

On February 25, 2013, the Alternate Service Delivery Committee concurred in the recommendation of the Winnipeg Public Service and submitted the matter to the Executive Policy Committee and Council.

On October 22, 2012, the Alternate Service Delivery Committee granted an extension of time to its next meeting, for the Winnipeg Public Service to report back as directed by Council on May 30, 2012.

COUNCIL DECISION:

On May 30, 2012, Council concurred in the recommendation of the Alternate Service Delivery Committee and adopted the following:

1. That the City of Winnipeg formally endorse the principles of Cloud First Computing.

2. That in pursuit of Cloud First Computing, the Winnipeg Public Service be directed to:
    A. Investigate and evaluate Cloud-based computing, to determine its viability as a safe, secure and cost effective IT solution for the City of Winnipeg;
    B. Identify and produce an inventory of which systems or applications could benefit and leverage a Cloud First Computing solution;
    C. Develop a plan to implement at a minimum 3 systems or applications within 12 months;
    D. Report back to the Alternate Service Delivery Committee in 120 days.

3. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

ADMINISTRATIVE REPORT

Title: **Cloud First Computing**

Critical Path: Alternate Service Delivery Committee – Executive Policy Committee – Council

AUTHORIZATION

Author	Department Head	CFO	CAO
G. Cottick	L. Burch	M Ruta	D Joshi COO

RECOMMENDATIONS

1. That the following applications be implemented on the cloud within the next 12 months:
    a. City Clerk's Video Streaming
    b. Open Data Portal
    c. External SharePoint

2. That the existing Information Technology business case process continue to be utilized to ensure cloud-based computing is adopted whenever appropriate

3. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

REASON FOR THE REPORT

At the May 30, 2012, City Council meeting, Council approved the recommendation of the Alternate Service Delivery Committee directing the Winnipeg Public Service to:

1. Investigate and evaluate cloud-based computing, to determine its viability as a safe, secure and cost effective IT solution for the City of Winnipeg;

2. Identify and produce an inventory of which systems or applications could benefit and leverage a Cloud First Computing solution;

3. Develop a plan to implement at a minimum 3 systems or applications within 12 months;

4. Report back to the Alternate Service Delivery Committee in 120 days.

IMPLICATIONS OF THE RECOMMENDATIONS

All cloud-based computing opportunities will be addressed within existing budgets or be identified as part of the funding requirement for new projects. This may result in changes in how we budget and compare total bid costs as an organization since cloud-based computing services are often subscription based (requiring operating budget funding) while on-premise computing can have a large fixed cost infrastructure component (requiring capital budget funding).

Analysis of cloud-based computing opportunities as part of the Information Technology business case process increases the amount of effort required to develop Information Technology business cases. This will be mitigated by establishing standard processes (e.g. financial models, data categorization, etc.) for vetting the applicability of systems for cloud-based computing by required stakeholders.

Any data being considered for implementation within the cloud will need to be evaluated to ensure that doing so would not put the organization at risk. This will be accomplished with a combination of records management practices and appropriately worded contracts with cloud-based computing service providers. The City must exercise due diligence to ensure all obligations under FIPPA, PHIA and other legislation continue to be addressed in situations where cloud-based computing is utilized.

HISTORY

Cloud-based computing is the delivery of computing as a service rather than as a product.

Cloud-based computing typically provides three primary sources of business value which include efficiency, agility and innovation. It responds to dynamic needs, new or urgently needed services with compressed delivery times; service would improve through benefit of greater innovation.

In a cloud-based computing scenario, shared resources, software and information are provided to computers and other devices as a utility over a network. Cloud-based computing can provide computation, software applications, data access and storage resources without requiring cloud users to maintain that computing infrastructure.

Cloud computing can take several forms, each of which builds upon the lower forms:

- Software as a Service (SaaS)
    - Provides all IT elements required to address business requirement (application, platform and infrastructure)

    - Usually provides the greatest efficiencies as client organization has no Information Technology (IT) support requirements

- Platform as a Service (PaaS)

    - Provides cloud services to address the IT needs of the application

    - The application makes use of standard computing platforms to address business needs (application must be designed to use these standard components)

- Infrastructure as a Service (IaaS)

    - Provides cloud services to address the infrastructure needs of the application (e.g. servers, storage, backup/recovery)

    - Usually the least efficient cloud approach due to the requirement for an organization to still provide considerable IT support

The Public Service engaged in discussions with the City of Edmonton and the City of Calgary to understand their approaches to cloud-based computing. Both organizations are currently establishing processes to allow applications to be implemented on the cloud. It appears that all of our organizations are at similar levels of maturity in our adoption of cloud-based computing. A potential exception to this is the Workspace Edmonton initiative which will have staff utilizing cloud-based email and office productivity solutions in much of their workforce. A key prerequisite to implementing this solution is ensuring that their electronic records management processes are well established and that the processes will prevent sensitive data from being exposed to unacceptable risk.

The City of Winnipeg currently makes use of cloud-based computing in a number of areas including:

- Assessment Appeals Fees

    - A cloud-based payment processing solution which collects fees from the public. Benefits of the solution include mitigation of Purchase Card Industry (PCI) standards compliance, enhanced security and reduced implementation effort and costs.

- Leisure Online Registration Load Testing

    - A cloud-based load testing solution which simulates client load against the Leisure Online system, allowing us to be certain that the application can handle the activity associated with peak registration periods. Benefits of the solution include high levels of rapid scalability in a cost effective manner and reduced effort required to perform load tests.

- Material Safety Data Sheets (MSDS)

    - A cloud-based solution to manage and provide access to our chemical inventories and the related MSDS library. Benefits of the solution include 24x7 access to critical safety

information where required for staff, with all data updates handled as part of the service in a cost effective manner.

The Public Service worked with a consulting firm to analyze our entire application portfolio of three hundred applications to determine which applications would be good candidates to implement on the cloud. The analysis was performed against the Microsoft Azure cloud solution (an industry leader in the cloud marketplace).

The analysis identified a small list of applications to be potential Azure cloud candidates (less than ten). Further detailed analysis of the most promising of these candidates showed them not to be viable due to the costs required to migrate the applications to the cloud. The consulting firm attributed the small number of candidates to the fact that a large portion of our application portfolio is made up of Commercial Off The Shelf (COTS) applications (applications that we have purchased rather than developed ourselves). COTS applications tend not to be good cloud candidates unless the manufacturer provides a specific cloud offering for the application (SaaS). These offerings would not be identified in a broad application inventory analysis but would be identified through our business case process where any available cloud options are investigated when future investments are being made for an application.

The following applications have been selected as the best candidates for implementation on the cloud:

- City Clerk's Video Streaming
    - Sharing of Council and Committee video within organization and the public
    - Benefits: greatly reduced cost for network usage, rapid scalability for high profile events
- Open Data Portal
    - Provide access to non-personal data for the use of the public
    - Benefits: data located closer to the public usage (reduced network costs and improved performance), rapid scalability when required
- External SharePoint
    - Provide collaboration capabilities between City organization and external stakeholders for specific business purposes (e.g. major projects and stakeholder consultation)
    - Benefits: rapid expansion to address new business needs, low cost for highly functional service, avoid implementation cost within City environment

Plans have been established in consultation with the application stakeholders to implement these three applications in the cloud within the next 12 months. These plans have a number of elements that still need to be refined as our processes are developed but the Public Service believes the implementations can be completed in the stated time period.

FINANCIAL IMPACT

Financial Impact Statement

Date: November 28, 2012

Project Name:
Cloud First Computing

First Year of Program **2013**

	2013	2014	2015	2016	2017
Capital					
Capital Expenditures Required	$ -	$ -	$ -	$ -	$ -
Less: Existing Budgeted Costs	-	-	-	-	-
Additional Capital Budget Required	$ -	$ -	$ -	$ -	$ -
Funding Sources:					
Debt - Internal	$ -	$ -	$ -	$ -	$ -
Debt - External	-	-	-	-	-
Grants	-	-	-	-	-
Reserves, Equity, Surplus	-	-	-	-	-
Other -	-	-	-	-	-
Total Funding	$ -	$ -	$ -	$ -	$ -
Total Additional Capital Budget Required	$ -				
Total Additional Debt Required	$ -				
Current Expenditures/Revenues					
Direct Costs	$ -	$ -	$ -	$ -	$ -
Less: Incremental Revenue/Recovery	-	-	-	-	-
Net Cost/(Benefit)	$ -	$ -	$ -	$ -	$ -
Less: Existing Budget Amounts	-	-	-	-	-
Net Budget Adjustment Required	$ -	$ -	$ -	$ -	$ -

Additional Comments:

1. Direct costs are unknown at this time however all Cloud-based computing opportunities will be addressed within the appropriate Department's existing resources or as part of the funding requirement for new projects in the future.

Original signed by:
Radhika Abeysekera
Manager of Finance (Campus)
Corporate Finance Department

CONSULTATION

In preparing this Report there was consultation with:

Information Services Leadership Group
Legal Services
City Clerk's
Corporate Finance

SUBMITTED BY

Department:	Corporate Support Services
Division:	Business Technology Services
Prepared By:	G. Cottick
Date:	November 28, 2012
File No.	